



Dear Ms. Julie Saare-Edmonds ~

We are writing to inform on the changes to the proposed MWELD changes and how it will effect communities of the Southern Area of the San Francisco Bay Area, roughly 2 million citizens with in our sphere of influence.

In times of crisis and drought, we understand the need for water conservation. As a Sod grower for urban horticultural environments, namely cool season turf grass, for the past 45 years we have been responsive to the SF Bay Area in providing products to improve property values which cool surrounding micro climates around homes, parks, schools, universities, golf courses and cemeteries, provide ground water recharge in bio swales as well as erosion control to keep our water ways clean and pollution free, create clean oxygen for people to breath, trap pollution and other airborne particulate matter, provide a safety barrier against fire, safe play surface for families and an area that is void of the health and safety issues associated with habitat for rodents, snakes, spiders and such .

Grass Farm has been at the forefront of product innovations such as No Mow, Buffalo Grass and other drought resistant varieties of products used as ground covers. Our most recent venture is within the research on Sub – Surface Drip Irrigation for cool season turf grass. Since February of 2015, Grass Farm has been monitoring the design, installation and maintenance of 4200 square feet of double dwarf fescue at its nursery located in Gilroy Ca. Since monitoring, data accessed from the Gilroy, CA location of CIMIS at the Syngenta location as crossed from dedicated water meters at the nursery show a water savings of 78% for the 2013 calendar year and 69% water savings for the 2014 calendar year. Due to some data issues for the 2013 calendar year, we believe that although SDI may reach a possibility for a 78% savings, the data from the 2014 calendar year showing a 69% savings will be a better reflection of what can be achieved with little efforts from a manual adjustment of an irrigation controller. Greater savings can be achieved with a current, smart controller.

In the recent 2000 edition of the University of California's "the landscape co-efficient and WUCOLS III" (or better known as Water Use Classification of Landscape Species III) by L.R. Costello and K.S. Jones of the Cooperative Extension of the University of California. What is notable of this work is the categories of landscape water use when compared to Eto data: the following is noted on page 12 of the document:

Species are divided into four categories "species factors range from 0.1 to 0.9 and are divided into four categories: Very Low > 0.1, Low 0.1-0.3, moderate 0.4-0.6, high 0.7-0.9."

When cross referencing the data from a sub-surface drip irrigation system to the WUCOLS data, one sees that a cool season turf grass when irrigated with a SDI system falls within the low water use category. This has surprised many, including Dr. Ali Harivandi, University of California emeritus San

Francisco Bay Area Turf and Landscape Advisor who viewed this project and verified collected water data as being valid and correct.

So what is one to collect from a project such as this? Turf grass as seen through the lens of overhead irrigation shows little problems from being over irrigated by 2.5 times of what is needed. Subsurface irrigation eliminates the inefficiencies of overhead irrigation technology and replaces it with irrigation directly to the root zone. SDI has yet to be analyzed for DU, however, row crop drip irrigation placed at 6.5" below the surface has a DU of 91% as verified by Dr. Marcus Buchanan during a recent planting of Bell Peppers at our family farm.

Worth noting, also, is a Technical review between Australia and California by the University of California, Davis by Dr. Cahill and Lund * which can be found on the UC site as an edition of the "journal of water resources Planning and Management ASCE/ January / February 2013." The 120 page document compares and contrasts the water use rates and conservation per capita water use: "Australia offers several lessons for reducing residential water use, including outdoor restrictions, substantial and accessible rebates for water-saving devices, and increased water prices. If California had used the same amount of per capita residential water as Australia, the urban water use reduction would have been approximately 2,600 GL (2.1 maf) in 2009 with approximately 1,800 GL (1.5 maf) more water available for other uses."

Of Note: the SDI product we are implementing is an Australian product named Kapillary Irrigation Sub Surface Systems (KISSS). It would be remiss to leave one with the impression that Australia is the only SDI product on the marketplace. The main take away: New technology can lead to lower water consumption, even with a landscape planting which has been previously labeled as "high" water use. In our 2+ year R&D in coordination with 45+ years of cool season sod production, SDI will remain a contributing factor to protect urban habitat, offset the urban heat island effect, stabilize erosion, provide ground water recharge, produce oxygen, protect from fire threats, remove health threats from rodents, snakes, spiders, ticks and other problematic issues.

It is time that California implements the same technology that is used in other parts of the world that face increased pressures on natural water resources.

We will refer to others in the irrigation fields to comment on issues of irrigation efficiencies, unobtainable Distribution Uniformity of Lower Half calculations with in the proposed changes of the ETAF calculations.

We believe that research performed by the many reputable Universities, worldwide, speak to the benefits of turf grass and its place within the urban environment. Plant pallet dictates rarely lead to favorable outcomes due to changes and enhancements both within technology as well as plant species development.

Sincerely,

Erin Gil

Resources:

*https://watershed.ucdavis.edu/files/biblio/conservation_jrl_.pdf